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## Original article

Review of genus *Olethreutes* (Lepidoptera, Tortricidae) from North Korea

Bong-Kyu Byun\*, Da-Som Kim

Department of Biological Science and Biotechnology, Hannam University, Yuseong-Gu, Daejeon, Korea

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## ABSTRACT

This study was conducted to review and clarify the fauna of *Olethreutes* from North Korea. In the present study, a total of 19 species of the genus *Olethreutes* were enumerated along with their respective taxonomic information. Available information for the species, including the host plants, synonymies, and distributional ranges, is also provided.

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## Introduction

This study was conducted to clarify the faunistic data for the genus *Olethreutes*, which is one of the big genera in the Tortricidae family. The first records of the family Tortricidae in North Korea was reported by [Zhu \(1969\)](#), comprising 34 species of the family Tortricidae—16 species of the subfamily Olethreutinae and 18 species of the subfamily Tortricinae. Among them, four species of *Olethreutes*—*Olethreutes dolosana*, *Olethreutes mori*, *Olethreutes transversana*, and *Olethreutes arcuella*—from North Korea were included. However, *O. arcuella* was later excluded by [Shin et al \(1983\)](#), owing to the misidentification of *O. captiosana*. In “Microlepidoptera of Korea” ([Park 1983](#)), 11 species of *Olethreutes* were listed with information based on previous reports. Among them, [Park \(1983\)](#) mentioned that *Olethreutes castaneana* was described from Weonsan by [Walsingham \(1900\)](#).

Later, [Park and Byun \(1991\)](#) reported 26 species of the family Tortricidae from North Korea, with the material deposited in the Hungarian Natural History Museum, Budapest, Hungary (HNHM). However, they did not report any species of *Olethreutes*. [Jaros et al \(1992\)](#) added 28 species of Tortricidae from North Korea, based on the material from the Czech Academy of Sciences (Prague, Czech Republic), including six species of *Olethreutes*—*O. turfosa*,

*O. metallicana*, *O. bidentata*, *O. bipunctana*, *O. rivulana*, and *O. lediana*. Of these species, *O. rivulana* was transferred to genus *Syricoris* and *O. lediana* to genus *Argyroplote* ([Brown 2005](#)).

[Byun et al \(1998\)](#) reviewed the 350 species of Korean Tortricidae, including 63 species of the subfamily Tortricinae and 40 species of the subfamily Olethreutinae from North Korea, with comments on six species of *Olethreutes* from North Korea. They also excluded a species, *Olethreutes castaena*, owing to a lack of specimen until that time ([Byun et al 1998](#)).

[Razowski \(1999\)](#) presented a list of Korean Tortricidae, including 176 species from North Korea based on previous reports and the specimens at the Polish Academy of Sciences, comprising 18 species of *Olethreutes*.

[Bae \(2000a,b\)](#) reviewed the 20 species belonging to *Phiaris* in Korea and Japan, including eight species—*Olethreutes ineptana*, *O. bipunctana*, *O. olivana*, *O. castaneana*, *O. dolosana*, *O. transversana*, *O. metallicana*, and *Olethreutes dissolutana*—from North Korea, which were later synonymized with *Olethreutes*. In “A Checklist of the Microlepidoptera in Korea,” [Byun et al \(2009\)](#) reported the 26 species of genus *Olethreutes* in the Korean peninsula. Among them, a total of 17 species of *Olethreutes* were reported from North Korea. Later, [Byun \(2013\)](#) added three species of the genus, *O. aviana*, *O. obovata*, and *O. orthocosma*. Among them, *O. olivana* was placed under *Olethreutes micana* as a junior synonym, following [Brown \(2005\)](#). Consequently, a total of 19 species of *Olethreutes* were confirmed from North Korea. Even though there have been several investigations by previous researchers, no comprehensive study on the genus from North Korea has been conducted to date.

\* Corresponding author. Tel.: +82426298892; fax: +82426298750.

E-mail address: [bkbyun@hnu.ac.kr](mailto:bkbyun@hnu.ac.kr) (B.-K. Byun).

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Therefore, this study was aimed to review and clarify the faunistic information of *Olethreutes* to update our knowledge on North Korean insect fauna with available information including previous records, host plants, distributional ranges, and synonyms for each species.

## Materials and methods

All data for North Korean fauna on Tortricidae were reviewed based on previous reports and listed for the genus with taxonomic arrangement. In addition, available materials were examined and enumerated as much as we possibly could. The material studied in this investigation was mostly based on the collection in the Hungarian Natural History Museum (Budapest, Hungary). Photographs of several available specimens are likewise provided. The abbreviations used for type depositories for each species are as follows: TL = type locality; HHNM = Hungarian Natural History Museum, Budapest, Hungary; BMNH = British Museum of Natural History, London, England; EIHU = Entomological Institute, Hokkaido University of Uppsala; KNA = Korea National Arboretum, Pocheon, Korea; MGAB = Muzeul de Istoria Naturala "Grigore Antipa," Bucharest, Romania; MNHU = Museum für Naturkunde der Humboldt-Universität, Berlin, Germany; TMB = Termesztudományi Múzeum Allattara (Hungarian Natural History Museum), Budapest, Hungary; USNM = National Museum of Natural History, Washington, DC, USA; ZMAS = Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia; and GS = genitalia slide number.

## Systematic accounts

Order Lepidoptera Linnaeus, 1758.

Family Tortricidae Latreille, 1803.

Subfamily Olethreutinae Walsingham, 1895.

Genus *Olethreutes* Hübner, 1822.

Type species: *Phalaena arcuella* Clerck, 1759.

=*Biscopa* Diakonoff, 1973:492.

=*Exartema* Clemens, 1860: 356.

=*Mixodia* Guenée, 1845: 160.

=*Phiaris* Hübner, [1825] 1816: 381.

=*Roxana* Stephens, 1834: 118.

### 1. *Olethreutes aviana* (Falkovitsh, 1959)

(Figure 1)

*Argyroploce aviana* Falkovitsh, 1959: 463. TL: Kazakhstan (Kuznetskii Altai, environs of Myski). Holotype: ZMAS.

*Olethreutes aviana*: Byun, 2013: 162.

Wingspan. ♂♀ 14 mm.

Material examined. 1♂, Prov. South Pyongan, Pyongyang Hotel garden, 12 VIII 1971 (leg. S. Harvatovich and J. Papp), GS-075; 1♂, Prov. South Pyongan, Bongwa-ri, 45 km from Pyongyang, 16–17 VIII 1971 (leg. S. Harvatovich and J. Papp), GS074.

Previous records. Pyongan (Byun 2013).

Distribution. Korea (S, N), Russia (Siberia, Far East).

Host plants. *Spiraea salicifolia* L. (Rosaceae) (Nasu 2013).

Remarks. This species was reported by Byun (2013) for the first time from the Korean peninsula.

### 2. *Olethreutes bidentata* (Kuznetsov, 1971) 꼬마뒤흰애기잎말이나방

*Olethreutes bidentata* Kuznetsov 1971: 428. TL: Russia (Primorye);

Jaros et al 1992: 92; Byun et al 1998: 122; Byun et al 2009: 70.

*Phiaris bidentata*: Razowski, 1999: 105.

Wingspan. ♂ 20 mm.

Previous records. Mt. Baekdu (Razowski 1999), Mupo (Ryanggang Province), Samjiyeon (Jaros et al 1992).

Distribution. Korea (N), Russia (Amur).

Remarks. This species was reported by Jaros et al (1992) for the first time from North Korea.

### 3. *Olethreutes bipunctana* (Fabricius, 1794) 흰줄애기잎말이나방 (Figure 2)

*Pyrallis bipunctana* Fabricius, 1794: 250. TL: Italy. Syntype: unknown.

*Olethreutes bipunctana*: Kuznetsov, 1967: 55; Jaros et al, 1992: 92;

Byun et al, 1998: 122; Byun et al, 2009: 70.

*Phiaris bipunctana*: Kuznetsov, 1973: 134; Bae, 2000a: 143.

*Olethreutes bipunctana yama* Kawabe, 1974: 102. TL: Japan (Hokkaido, Mt. Daisetsu). Holotype: USNM.

*Loxoterma bipunctana*: Razowski, 1999: 105.

Wingspan. ♂♀ 15–17 mm.

Material examined. 1♀, Ryanggang Province, Chann-Pay Plateau, Sma-Ji-Yan 1,700 m, 24 VII 1975 (leg. J. Papp and A. Vojnits), GS-014—coll. KNA.

Previous records. Mt. Baekdu, Mt. Sobek, Mupo (Ryanggang Prov.), Samjiyeon, Hyesan (Jaros et al 1992).

Distribution. Korea (N), Russia (North East Siberia).

Host plants. *Pyrola* sp. (Pyrolaceae), *Rhododendron* sp., and *Vaccinium* (Ericaceae) in Europe (Hannemann 1961).

Remarks. This species was reported by Jaros et al (1992) for the first time from North Korea.

### 4. *Olethreutes cacuminana* (Kennel, 1901) 광릉애기잎말이나방

*Penthina cacuminana* Kennel, 1901: 253. TL: Russia (Primorsky Krai, Suchan). Lectotype: MNHU.

*Phiaris gordiana* Kennel, 1919: 81. TL: Russia (East Tannuola). Lectotype: MNHU.

*Olethreutes cacuminana*: Park, 1983: 44; Byun et al, 1998: 122; Byun et al, 2009: 70.

*Phiaris cacuminana*: Razowski, 1999: 105.

Wingspan. ♂♀ 16–19 mm.

Previous records. Mt. Myohyang (Hyang-san Chou), Chauyriu Valley (Razowski 1999).

Distribution. Korea (S, N, J), Japan, Russia (Amur Region).

Host plants. *Daphniphyllum* sp. (Daphniphyllaceae) (Nasu 2013).

Remarks. This species was reported by Park (1983) for the first time from Korea.

### 5. *Olethreutes captiosana* (Falkovitsh, 1960) 왕무늬애기잎말이나방

*Phiaris captiosana* Falkovitsh, 1960: 690. TL: Russia (Amur Region, Simonovo). Holotype: ZMAS.

*Olethreutes captiosana*: Park, 1983: 43; Byun et al, 1998: 123.

*Olethreutes captiosanus*: Razowski, 1999: 103.

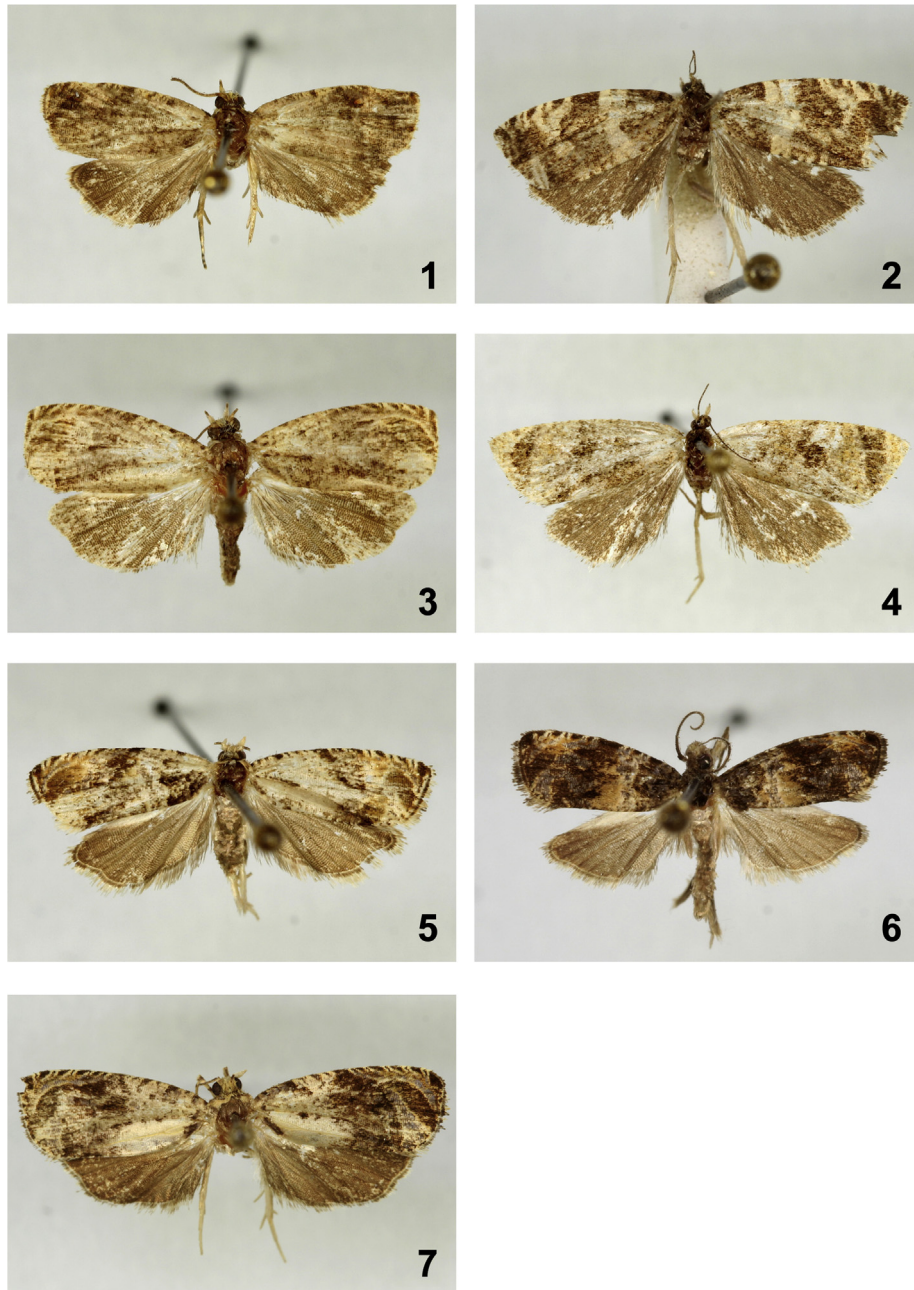
Wingspan. ♂♀ 17–21 mm.

Previous records. Mt. Hyang, Mt. Kumgang, Mt. Myohyang (Hyang-san Chou), Mt. Ryongak, Chauyriu Valley, Pagon-pokdo, Samjiyeon (Razowski 1999).

Distribution. Korea (S, N), Japan, China, Russia (Siberia).

Host plants. Fallen leaves (Nasu 2013).

Remarks. This species was misidentified as *O. arcuella* by Zhu (1969), and later reviewed as *O. captiosana* by Shin et al (1983).



**Figures 1–7.** : Adult of genus *Olethreutes*. 1, *O. aviana* (Falkovitsh); 2, *O. bipunctana* (Fabricius); 3, *O. dolosana* (Kennel); 4, *O. metallicana* (Hübner); 5, *O. obovata* (Walsingham); 6, *O. orthocosma* (Meyrick); 7, *O. transversana* (Christoph).

**6. *Olethreutes castaneana*** (Walsingham, 1900) 밤색애기잎말이나방

*Exartema castaneanum* Walsingham, 1900: 124. TL: Japan (Kyushu).  
Syntype: BMNH.

*Olethreutes castaneana*: Kawabe, 1982: 1: 109, 2: 170; Byun et al, 1998: 197.

*Olethreutes castaena*: Park, 1983: 45 (misspelled).

*Olethreutes castaneanus*: Razowski, 1999: 103.

*Phiaris castaneana*: Bae, 2000b: 191.

*Olethreutes castaneanum*: Byun et al, 2009: 70.

Wingspan. ♂♀ 15–16 mm.

Previous records. Weonsan (Razowski 1999)

Distribution. Korea (N), Japan, China.

**Remarks** This species was reported by Walsingham (1900) for the first time from Gensan (=Wonsan), North Korea, with five specimens in July–September; specimens were also collected in Kiusiu (=Kyushu), Japan.

**7. *Olethreutes dissolutana*** (Stange, 1886) 흑줄애기잎말이나방

*Sericoria dissolutana* Stange, 1886: 282. TL: Poland (Swinoujście).

Syntype: Unknown.

*Phiaris dissolutana* Razowski, 1999: 106; Bae, 2000b: 199.

*Olethreutes dissolutana* Byun et al, 2009: 71.

Wingspan. ♂♀ 16–17 mm.

Previous records. Samjiyeon (Razowski 1999).

Distribution. Korea (N), Europe, Russia (W, NE Siberia to Magadan).



Host plants. *Polytricum* Hedw. (Polytrichaceae) in Europe (Kennel 1901; Schütze 1931; Bae 2011).

Remarks. This species was first reported by Razowski (1999) from North Korea.

**8. *Olethreutes dolosana* (Kennel, 1901)** 매화애기잎말이나방 (Figure 3)

*Penthina dolosana* Kennel, 1901: 254. TL: Russia (Promosky Krai, Suchan). Lectotype: MNHU.

*Argyroplote dolosana*: Kennel, 1916: 415.

*Exartema dolosana*: Issiki, 1932: 1458; Zhu, 1969: 289.

*Olethreutes dolosana*: Razowski, 1971: 533; Park, 1983: 44; Byun et al, 1998: 123; Byun et al, 2009: 71.

*Olethreutes dolosanus*: Razowski, 1999: 103.

*Phiaris dolosana*: Bae, 2000b: 191.

Wingspan. ♂♀ 15–16 mm.

Material examined. 1♀, Prov. South Pyongan, Za-mo-san, 60 km from Pyongyan, 1 IX 1971 (leg. S. Harvatovich and J. Papp), GS-026 – coll. KNA; 3♀, Prov. South Pyongan, Za-mo san, 60 km NE from Pyangyan, 2 IX 1971 (S. horvatovich and J. Papp), GS-47 – coll. KNA; 2♀, Prov. Gang-von, district On-dzong, Kum-gang san, near Hotel Go-song, 250 m, 5 VIII 1974 (leg J. Papp and A. Vojnits), GS-043 – coll. KNA; 1♀, Prov. Ryang-gang, Chann-Pay Plateau, Sam-zi-yan, 1700 m, 25 VIII 1971 (S. Horvatovich and J. Papp), GS-044 – coll. KNA.

Previous records. Pyongyang, Hiesan (Razowski 1999).

Distribution. Korea (S, N), Japan, China, Russia (Amur).

Host plants. *Prunus mume* Sieb. and Zucc. (Rosaceae) in China (Liu and Bai 1977; Bae 2011).

Remarks. This species was reported by Zhu (1969) for the first time from North Korea.

**9. *Olethreutes ineptana* (Kennel, 1901)** 동북애기잎말이나방

*Penthina ineptana* Kennel, 1901: 255. TL: Russia (Primorsky Krai, Askold Island). Lectotype: MNHU.

*Olethreutes ineptana*: Razowski, 1971: 533; Byun et al, 2009: 72.

*Argyroplote ineptana*: Liu and Bai (1977: 80).

*Phiaris ineptana*: Razowski, 1999: 106; Bae, 2000a: 142.

Wingspan. ♂♀ 17–23 mm.

Previous records. Mt. Myohyang (Hyang-san Chou) (Razowski 1999).

Distribution. Korea (N), Russia (Far East), Japan, China.

Host plants. Leguminosae (Nasu 2013).

Remarks. This species was first reported by Razowski (1999) from North Korea.

**10. *Olethreutes metallica* (Hübner, 1799)** 큰광택애기잎말이나방 (Figure 4)

*Tortrix metallica* Hübner, [1796–1799]: Pl. 11, Fig. 68. TL: Europe. Syntype: unknown.

*Tortrix mettallana* Frolich, 1828: 69.

*Sericoris porphyra* Laharpe, 1858: 66. TL: Switzerland.

*Grapholitha lobarzewskii* Nowicki, 1864: 9. TL: Ukraine.

*Grapholitha zebrawskii* Nowicki, 1864: 9. TL: Poland (Tetra Mountains).

*Penthina murina* Packard, 1866: 60. TL: Canada.

*Penthina metallica* ferruginea Tengstrom, 1869: 361. TL: Lapland.

*Argyroplote metallica* amurensis Caradja, 1916: 58. TL: Russia.

*Argyroplote metallica* asiaticus Caradja, 1916: 58. TL: Russia (Far East).

*Phiaris metallica* obscura Obratzov, 1949: 204. TL: Germany.

*Olethreutes metallica* bicornutana Kuznetsov, 1971: 428. TL: Russia (Kuril Island).

*Olethreutes metallica*: Jaros et al, 1992: 91; Byun et al, 2009: 72.

*Phiaris metallica*: Razowski, 1999: 106; Bae, 2000b: 198.

Wingspan. ♂♀ 14–19 mm.

Material examined. 1♀, Prov. Ryanggang, Chann-Pay Plateau, Sma-Ji-Yan 1,700 m, 24 VII 1975 (leg J. Papp and A. Vojnits), GS-024 – coll. KNA.

Previous records. Mt. Baekdu, Mupo (Ryanggang Province), Samjiyeon, Taehongdan (Jaros et al 1992).

Distribution. Korea (N), Japan, China, Europe.

Host plants. *Vaccinium myrtillus* Linnaeus (Ericaceae) in Europe (Hannemann 1961; Bae 2011).

Remarks. This species was reported by Jaros et al (1992) for the first time from North Korea.

**11. *Olethreutes micana* (Hübner, 1799)** 적갈애기잎말이나방

*Tortrix micana* [Denis & Schiffermüller], 1775: 127. TL: Europe.

Syntype: unknown.

*Sericoris olivana* Treitschke, 1830: 15. TL: Germany.

*Argyrolepis bistrigana* Stephens, 1834: 177. TL: England.

*Orthotaenia haworthana* Stephens, 1834: 179. TL: England.

*Phiaris olivana* Razowski, 1983: 80; Bae, 2000b: 187.

*Phiaris micana*: Razowski, 1999: 106.

*Olethreutes micana*: Byun et al, 2009: 72.

*Olethreutes olivana* Byun et al, 2009: 73.

Wingspan. ♂♀ 13–18 mm.

Previous records. Samjiyeon (Razowski 1999).

Distribution. Korea (N), Europe, Russia (Siberia to Amur).

Remarks. This species was first reported by Razowski (1999) from North Korea. Later, it was synonymized with *O. micana* (Brown 2005).

**12. *Olethreutes mori* (Matsumura, 1900)** 뽕큰애기잎말이나방

*Evetria mori* Matsumura, 1900: 196. TL: Japan (Honshu, Iwata Prefecture). Lectotype: EIHU.

*Exartema japonicum* Walsingham, 1900: 126. TL: Japan (Honshu). Syntype: BMNH.

*Cymolomia* (*Exartema*) *mori*: Matsumura, 1931: 1068.

*Exartema mori*: Zhu, 1969: 289.

*Olethreutes* (*Olethreutes*) *mori*: Diakonoff, 1973: 484.

*Olethreutes mori*: Kuznetsov, 1973: 124; Park, 1983: 43; Byun et al, 1998: 122; Razowski, 1999: 103; Byun et al, 2009: 73.

*Phiaris mori*: Bae, 2000a: 145.

Wingspan. ♂♀ 19–22 mm.

Previous records. Samjiyeon (Razowski 1999).

Distribution. Korea (S, N, J), Japan, China, Russia (Amur).

Host plants. *Morus alba* L. (Moraceae) in Korea (Park 1983; Bae 2011); *Morus bombycis* Koidz (Moraceae), *Sorbus alnifolia* (S. and Z.) (Rosaceae) in Japan (Bae and Sakamaki 1995; Bae 2011).

Remarks. This species was reported by Zhu (1969) for the first time from North Korea.

**13. *Olethreutes nigricrista* Kuznetsov, 1976** 우수리애기잎말이나방

*Olethreutes nigricrista* Kuznetsov, 1976: 9. TL: Russia (Primorsky Krai, near Ussurijsk). Holotype: ZMAS; Jaros et al, 1992: 84; Byun et al, 1998: 128; Byun et al, 2009: 73.

*Celypha nigricrista*: Razowski, 1999: 105.

Wingspan. ♂♀ 11–12 mm.

Previous records. Pagyon-pokpo, Yongaksan (Razowski 1999).

Distribution. Korea (S, N, J), Russia (Ussuri).

Remarks. This species was first reported by Jaros et al (1992) from North Korea.

**14. *Olethreutes obovata* (Walsingham, 1900)** 꼬리애기잎말이나방 (Figure 5)

*Argyroplote obovata* Walsingham, 1900: 241. TL: Japan (Honshu, Fochau). Holotype: BMNH.

*Olethreutes obovata*: Park, 1983: 44; Byun et al, 1998: 128; Byun et al, 2009: 73; Byun, 2013: 162.

*Olethreutes obovatus*: Razowski, 1999: 104.

Wingspan. ♂♀ 12–15 mm.

Material examined. 5♂, Prov. South Pyongan, Bongwa-ri, 45 km from Pyongyang, 16–17 VIII 1971 (leg. S. Harvatovich and J. Papp), GS-019, 051, 057, 63; 1♂, Kaesong, Mts. Pakyon, 20 km NE from Kaesong, 10 IX 1971 (leg. S. Harvatovich and J. Papp)—coll. HNHM.

Previous records. Pyongan (Bongwa-ri), Kaesong (Byun 2013).

Distribution. Korea (N, S), Japan, China, Russia (Amur).

Host plants. *Spiraea thunbergii* Siebold ex Blume, *Spiraea trichocarpa* Nakai, *Spiraea cantoniensis* Lour. (Rosaceae) (Nasu 2013).

Remarks. This species was reported by Byun (2013) for the first time from North Korea.

**15. *Olethreutes orthocosma* (Meyrick, 1931)** 노랑무늬애기잎말이나방 (Figure 6)

*Argyroplote orthocosma* Meyrick, 1931: 141. TL: Japan (Tokyo and Hasimoto), China (Kwanshien and Mt. Omei). Syntype: unknown.

*Olethreutes orthocosma*: Park, 1983: 45; Byun et al, 1998: 129; Byun et al, 2009: 73; Byun, 2013: 162.

*Olethreutes orthocosmus*: Razowski, 1999: 104.

Wingspan. ♂♀ 13–16 mm.

Material examined. 1♂, Prov. South Pyongan, Pyongyang Hotel garden, 15 VIII 1971 (leg. S. Harvatovich and J. Papp), GS-035; 2♂, 2♀, Prov. South Pyongan, Pyongyang Hotel garden, 18 VIII 1971 (leg. S. Harvatovich and J. Papp), GS-005, 060; 1♂, Prov. South Pyongan, Pyongyang Hotel garden, 19 VIII 1971 (leg. S. Harvatovich and J. Papp); 2♂, 1♀, Prov. South Pyongan, Pyongyang Hotel garden, 12 VIII 1971 (leg. S. Harvatovich and J. Papp); 1♂, 3♀, Prov. South Pyongan, Pyongyang Hotel garden, 20–21 VIII 1971 (leg. S. Harvatovich and J. Papp), GS-048, 081, 098; 4♂, 1♀, Prov. South Pyongan, Pyongyang Hotel garden, 31 VIII 1971 (leg. S. Harvatovich and J. Papp), GS-052; 1♀, Prov. South Pyongan, Pyongyang Hotel garden, 2 IX 1971 (leg. S. Harvatovich and J. Papp); 1♂, Prov. South Pyongan, Pyongyang Hotel garden, 3 IX 1971 (leg. S. Harvatovich and J. Papp); 1♂, 1♀, Prov. South Pyongan, Pyongyang Hotel garden, 4 IX 1971 (leg. S. Harvatovich and J. Papp), GS-067; 4♂, 1♀, Prov. South Pyongan, Bongwa-ri, 45 km from Pyongyang, 16–17 VIII 1971 (leg. S. Harvatovich and J. Papp), GS-058; 1♂, Prov. South Pyongan, De-sang san, 12 km from Pyongan, 8 VIII 1971 (leg. S. Harvatovich and J. Papp); 1♀, Prov. Ryanggang, Chann-Pay Plateau, Sma-Ji-Yan 1,600 m 25 VII 1975 (leg. J. Papp and A. Vojnits).

Previous records. Pyongan, Ryanggang Province (Byun 2013).

Distribution. Korea (N, S, J), China, Taiwan, Japan, Russia (Amur, Siberia).

Host plants. *Viburnum furcatum* B. (Caprifoliaceae), *Fragaria* sp. (Rosaceae) (Park 1983), *Perilla frutescens* var. *japonica* H. (Labiatae) in Korea (Park and Park 1988).

Remarks. This species was reported by Byun (2013) for the first time from North Korea.

**16. *Olethreutes siderana* (Treitschke, 1835)** 달구지애기잎말이나방 *Sericoris siderana* Treitschke, 1835: 81. TL: Romania (Banat). Syntype: TMB.

*Sericoris chalybeana* Walsingham, 1879: 34. TL: USA (California). Syntypes: BMNH.

*Argyroplote nortana* Walsingham, 1900: 129. TL: Japan.

*Argyroplote siderana aurana* Caradja, 1939: 31. TL: China (Kuatun). Lectotype: MGAB.

*Phiaris siderana*: Kuznetsov, 1978: 438, 445; Bae, 2000a: 138.

*Olethreutes siderana*: Jaros et al, 1992: 88; Byun et al, 1998: 131; Byun et al, 2009: 74.

*Loxoterma siderana*: Razowski, 1999: 105.

Wingspan. ♂♀ 17–20 mm.

Previous records. Mt. Hyang, Mt. Kumgang, Mt. Ryongak, Samjiyeon, Pagyon-pokpo (Jaros et al 1992).

Distribution. Korea (S, N), Japan, China, Russia, Europe.

Host plants. *Astilbe microphylla* Knoll (Saxifragaceae), *A. pedunculata* (H. Boiss) Nakai, *Deutzia crenata* Sieb. and Zucc., *Filipendula multijuga* Maxim. (Kawabe 1982), *Spiraea chamaedryfolia* Linn. var. *pilosa* (Nakai) Haral (Rosaceae), *Trifolium lupinaster* Linn. (Leguminosae) (Bae 2011).

Remarks. This species was first reported by Jaros et al (1992) from North Korea.

**17. *Olethreutes subtilana* (Falkovitsh, 1959)** 작은왕애기잎말이나방 *Argyroplote (Phiaris) subtilana* Falkovitsh, 1959: 460. TL: Russia (Siberia, Salair Ridge, N Vaganovo-Kemerovo Region). Holotype: ZMAS.

*Olethreutes subtilana*: Byun et al, 1998: 131; Byun et al, 2009: 74.

*Olethreutes subtilanus*: Razowski, 1999: 103.

Wingspan. ♂♀ 12–16 mm.

Previous records. Mt. Myohyang (Hyang-san Chou) (Razowski 1999).

Distribution. Korea (S, N, J), Japan, China, Russia (St. Petersburg, Siberia).

Host plants. Fallen leaves (Nasu 2013).

Remarks. This species was reported by Razowski (1999) for the first time from North Korea.

**18. *Olethreutes transversana* (Christoph, 1881)** 줄회색애기잎말이나방 (Figure 7)

*Penthina transversana* Christoph, 1881: 75. TL: Russia (Primorsky Krai, Vladivostok). Syntype: unknown.

*Exartema transversanum*: Walsingham, 1900: 126; Zhu, 1969: 289.

*Olethreutes transversana*: Rebel, 1901: 108; Park, 1983: 44; Byun et al, 1998: 132; Byun et al, 2009: 74.

*Cymolomia transversana*: Kennel, 1916: 434.

*Exartema transversana*: Caradja, 1916: 59.

*Olethreutes transversanus*: Razowski, 1999: 104.

*Phiaris transversana*: Bae, 2000b: 194.

Wingspan. ♂♀ 16–21 mm.

Material examined. 1♀, Prov. Ryanggang, Hyesan, room of Hotel Hyesan, 22 VII 1975 (leg. J. Papp and A. Vojnits), GS-071.

Previous records. Woensan (Razowski 1999)

Distribution. Korea (S, N), Japan, Russia (Amur), China.

Host plants. *Fragaria* sp. (Rosaceae), *Mentha arvensis* var. *piperascens* M. (Labiatae), *Glycine max* M. (Leguminosae) in Japan (Kawabe 1982; Bae 2011).

Remarks. This species was reported by Razowski (1999) for the first time from North Korea.

# 19. *Olethreutes turfosana* (Herrich-Schäffer, 1851) 빛살무늬애기잎말이나방

*Tortrix* (*Sericoris*) *turfosana* Herrich-Schäffer, 1851: 217. TL: Poland. Syntype: unknown.

*Sericoris intermistana* Clemens, 1865: 140. TL: Canada.

*Penthina tessellana* Packard, 1866: 58. TL: Canada.

*Penthina septentrionana* Moschler, 1883: 124. TL: Canada.

*Argyroproce boreana* Rebel, 1901: 107.

*Olethreutes turfosana*: Jaros et al, 1992: 91; Byun et al, 1998: 132 (misspelled).

*Phiaris turfosana*: Razowski, 1999: 106.

*Olethreutes turfosana*: Byun et al, 2009: 74.

Wingspan. ♂♀ 14–20 mm.

Previous records. Mt. Baekdu, Mupo (Ryanggang Province) (Jaros et al 1992).

Distribution. Korea (N), Russia (Siberia), Europe.

Remarks. This species was reported by Jaros et al (1992) for the first time from North Korea.

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